REMARKS

Claims 1-10 are pending in the application. Claims 1-10 are rejected under 35 U.S.C.§ 103(a).

Claims 1 and 6 have been amended to more clearly recite the capping means for closing an upper end of free space (16) by the combination of an unperforated cylindrical wall (15) and horizontal gas tight baffle (17), wherein said capping means extends below the upper surface reached by the catalyst.

Response to the Rejection of Claims 1-10 under 35 U.S.C. § 103

Claims 1-10 are rejected under 35 U.S.C.§ 103(a) as allegedly being unpatentable over U.S. Patent No. 5,202,097 to Poussin ("Poussin").

Applicants respectfully submit, that independent claim 1 and 6 are patentable over Poussin because: **(1)** Poussin fails to disclose wherein the unperforated cylindrical wall (15) remains below the upper level (13) reached by said catalyst; and **(2)** wherein said free gas space (16) has a thickness great enough to allow said passage without causing additional pressure drop.

Capping Portion

First, with regard to item (1), the Examiner stated in the Response to Arguments portion of the June 29, 2005 Office Action, that the "cap is immersed in the catalyst mass" is not recited in the claims. Claims 1 and 6 have been amended to more clearly define this structure.

Regarding claim 1, Applicants respectfully submit that, contrary to what is stated by the Examiner at page 4, point 5 second paragraph of the Office Action, claim 1 is indeed presently restricted to an unperforated cylindrical wall (15) having a horizontal gas tight baffle (capping

means) (17) wherein said unperforated cylindrical wall (15) remains below the upper level (13) reached by said catalyst (14). Furthermore, Poussin fails to disclose this feature.

For example, in Poussin no portion of the metal cap 10 remains below the upper level of the catalyst mass once the latter is loaded in the catalytic bed 7. In Poussin, the catalyst mass 31 is confined in the annular catalytic compartments 8 (indicated in figure 1 by oblique lines) The catalyst 31 is covered on top by a flexible layer 19 of inert material which is in turn covered by a layer of inert balls 11, 12, 13 (see for instance column 2, lines 31-33, 3537, 52-56), Both the catalyst mass and the layer of inert balls are contained within a catalyst bed externally defined by a cylindrical wall ending at the top with the upper wall 32. In Poussin the cap is merely immersed in the layer of inert balls 11, 12, 13, not the catalyst mass 31. Such balls have nothing to do and cannot be compared or confused with catalyst particles. In particular, in all the figures it is clearly shown that the cap never extends below the catalyst cover layer 19, i e. remains above the upper level reached by the catalyst mass 31

On the contrary, according to present claim 1, it is explicitly provided for an unperforated cylindrical wall, which remains below the upper level reached by the catalyst mass in the catalyst bed, i.e which is at least partially surrounded and covered by the catalyst mass

The effect resulting from this distinguishing feature is essential to the present invention, Thanks to the presence of a portion of the unperforated cylindrical wall extending in the catalyst mass 14, all reagents F fed to the catalytic bed 6 for carrying out a desired chemical reaction are obliged to pass through, to cross, at least a certain portion of the catalyst mass 6 and thus are they obliged to react before reaching the gas outlet perforated cylindrical wall 8. In other words, as

stated at page 9, lines 24-26 of the present description, the above distinguishing feature prevents gas reagents from crossing the catalytic bed 6 without penetrating into the catalytic mass 14.

The present invention thus allows to obtaining a catalytic bed with a high reaction yield and production capacity, wherein reagent bypass of the catalytic mass are prevented in a simple, reliable and economic way.

This distinguishing feature is neither disclosed nor suggested in Poussin. This prior art document teaches the provision of a complex and costly arrangement of a layer of inert balls 11, 12, 13 in association with a flexible refractory material 19 that bears on (press on) the catalyst mass (the catalyst filter 31). Such an arrangement is particularly difficult and complicated to install and in case of maintenance operations. Apart from the above drawbacks, the arrangement of the prior art can also in no way completely prevent that some of the reagents bypasses the catalyst mass 31 by flowing between any possible interstice, gap, present between the upper (irregular) level of the catalyst mass and the layer 19. This means that the reactor according to Poussin allows for an undesired bypass of the catalyst mass by the reagents.

Further, for the same reasons, claim 6 is patentable as it similarly discloses a cap (15, 17) which closes the free space (16) between the unperforated wall (15) and the gas outlet wall, wherein unperforated cylindrical wall (15) remains below the upper level (13) reached by the catalyst (14).

Any assertion that this distinguishing feature would have been obvious to the skilled person without any prior art substantiation should be traversed as being the result of an inadmissible ex post facto analysis of the invention.

Free Space Portion

Second, with regard to item (2), another distinguishing feature of the present invention is the provision of a free space between the unperforated cylindrical wall and the gas outlet perforated cylindrical wall, having a thickness great enough not to cause additional pressure drop to the portion of reacted gases leaving the catalyst mass and passing through said free space.

This second distinguishing feature is extremely significant to the present invention since it contributes in an essential way to solve the technical problem of the present invention that is the problem of avoiding reactants to bypass the catalyst mass in case of an incomplete filling of the catalyst bed, maintaining at the same time the fluid dynamics characteristics of a completely filled catalytic bed. Persuasive evidence of such relevance can for instance be clearly deduced from the present description, at page, 9, lines 26-34 in combination with page 10, lines 13-15.

As admitted by the Examiner, this feature is not disclosed in Poussin. However, contrary to the Examiner's opinion, such a feature cannot be considered prima facie obvious to the skilled person.

Gas, as such, can flow even through a free space of very small thickness. Therefore, supposing that Poussin discloses a free space between the cap and the central stack 9 (supposition that is still contested by the Applicant), such a free space would be fully suitable for being crossed by a gas flow. There is no indication or incentive in Poussin for the skilled person to look at a specific thickness of such a free space. In other words, any thickness would be at an optimum or workable size range according to Poussin.

In this connection, the attention of the Examiner should be drawn to the fact that we are not at all in a situation wherein the closest prior art is concerned with a same technical problem

and suggest a similar solution with respect to the claimed invention, wherein the only difference is the identification of optimal or workable ranges by routine experimentation.

Poussin is not concerned with the technical problem of the present invention nor does it aim to solve a similar problem. This feature is thus totally ignored according to the teaching of Poussin and in the absence of an incentive or teaching to do so the skilled person would have not found it without the exercise of an inventive skill.

Again, any assertion that also this second distinguishing feature would have been obvious to the skilled person without any prior art substantiation should be traversed as being the result of an inadmissible ex post facto analysis of the invention.

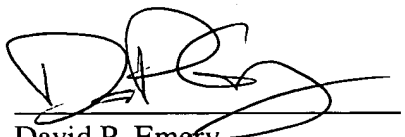
Conclusion

In view of the above, the subject-matter of independent claims 1 and 6 and of dependent claims 2-5 and 7-10 should thus be regarded as patentable over the cited prior art and allowance of the present case is finally expected.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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